



ICAO ENGINE EXHAUST EMISSIONS DATA SHEET

SUBSONIC ENGINES

ENGINE IDENTIFICATION: Trent XWB-79
 UNIQUE ID NUMBER: 14RR073
 COMBUSTOR: Phase5 Tiled
 ENGINE TYPE: TF

BYPASS RATIO: 9.2
 PRESSURE RATIO (π_{00}): 38.8
 RATED THRUST (F_{00}) (kN): 355.2

REGULATORY DATA **** DATA SUPERSEDED **** SEE FOLLOWING UID FOR REVISED DATA: **18RR078**

CHARACTERISTIC VALUE:	HC	CO	NO _x	SMOKE NUMBER
D _p /F ₀₀ (g/kN) or SN	1.8	32.8	53.1	11.6
AS % OF ORIGINAL LIMIT	9.1	27.8	45.2	69.6
AS % OF CAEP/2 LIMIT (NO _x)			56.4	
AS % OF CAEP/4 LIMIT (NO _x)			62.8	
AS % OF CAEP/6 LIMIT (NO _x)			69.4	
AS % OF CAEP/8 LIMIT (NO _x)			78.4	

DATA STATUS

- PRE-REGULATION
 x CERTIFICATION
 - REVISED (SEE REMARKS)

TEST ENGINE STATUS

- NEWLY MANUFACTURED ENGINES
 x DEDICATED ENGINES TO PRODUCTION STANDARD
 - OTHER (SEE REMARKS)

EMISSIONS STATUS

x DATA CORRECTED TO REFERENCE
 (ANNEX 16 VOLUME II)

CURRENT ENGINE STATUS

(IN PRODUCTION, IN SERVICE UNLESS OTHERWISE NOTED)
 - OUT OF PRODUCTION (DATE: -)
 - OUT OF SERVICE (DATE: -)

MEASURED DATA

MODE	POWER SETTING (%F ₀₀)	TIME (minutes)	FUEL FLOW (kg/s)	EMISSIONS INDICES (g/kg)			SMOKE NUMBER
				HC	CO	NO _x	
TAKE-OFF	100	0.7	2.601	0.00	0.37	40.55	6.0
CLIMB OUT	85	2.2	2.129	0.00	0.42	31.15	6.9
APPROACH	30	4.0	0.755	0.00	1.36	10.95	6.1
IDLE	7	26.0	0.280	1.11	22.51	4.55	1.3
LTO TOTAL FUEL (kg) or EMISSIONS (g)			1008	486	10227	17154	-
NUMBER OF ENGINES				2	2	2	2
NUMBER OF TESTS				4	4	4	4
AVERAGE D _p /F ₀₀ (g/kN) or AVERAGE SN (MAX)				1.4	28.8	48.3	9.9
SIGMA (D _p /F ₀₀ in g/kN, or SN)				0.0	2.4	0.7	3.0
RANGE (D _p /F ₀₀ in g/kN, or SN)				1.34-1.4	27.12-30.48	47.8-48.8	7.8-12.1

ACCESSORY LOADS

POWER EXTRACTION 0 (kW) AT - POWER SETTINGS
 STAGE BLEED 0 (% CORE FLOW) AT - POWER SETTINGS

ATMOSPHERIC CONDITIONS

BAROMETER (kPa)	98.5-101.3
TEMPERATURE (K)	280-295
ABS HUMIDITY (kg/kg)	0.00248-0.00964

FUEL

SPEC	
H/C	1.86
AROM (%)	17.3

MANUFACTURER: Rolls-Royce plc
 TEST ORGANIZATION: Rolls-Royce
 TEST LOCATION: Derby
 TEST DATES: 01/04/2012-03/07/2014

NO_x REGULATION PARAGRAPH

	2.3.2 c) (CAEP/4)
	2.3.2 d) (CAEP/6)
x	2.3.2 e) (CAEP/8)

REMARKS

- Data from Certification Report DNS197360 Iss 2
- Certification in accordance with Part III, Chapter 2, of Amendment 7 of ICAO Annex 16 Vol. II.
- NO_x levels in accordance with Part III, Chapter 2, 2.3.2 e) (CAEP/8)

Compliance with Fuel Venting requirements:

- ('x' if complies, 'PR' if pre-regulation, '-' if information is not available)